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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/694,450 | 10/27/2003 | Benyong Zhang | P05719 | 8900 |
| 23990 | 7590 | 09/14/2005 | EXAMINER | |
| DOCKET CLERK P.O. DRAWER 800889 DALLAS, TX 75380 | | | NGUYEN, MINH T | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2816 | |

DATE MAILED: 09/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/694,450

Applicant(s)

ZHANG, BENYONG

Examiner

Minh Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-10, 12-17 and 19-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-10, 12-17, 19, 20, 22 and 23 is/are allowed.
- 6) ☒ Claim(s) 1-5, 7 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 August 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>8/8/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's amendment filed on 8/8/05 has been received and entered in the case. The amendment and argument presented therein overcome the informality objections, indefiniteness rejections and previous prior art rejections, and therefore, these are withdrawn. Claims 8, 15 and their dependent claims are allowed. New grounds of rejections to claims 1-5, 7 and 21, necessitated by the amendment are set forth below. This action is FINAL.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-5, 7 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim 1, the recitation that the sampling clock signal reduced with respect to the reference clock signal on line 6 is unclear, i.e., it is unclear which parameter is reduced. In other words, it is unclear if the recitation means the magnitude, the frequency, or some other parameters of the sampling clock signal is reduced with respect to the reference clock signal.

As per claims 2-5, 7 and 21, these claims are rejected because of the indefiniteness of claim 1.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 5,920,233, issued to Denny (the reference is cited in PTO-892 which is enclosed in the previous Office action).

Denny discloses a method (figure 3) for providing a phase-locked loop with reduced spurious tones, comprising:

comparing a reference clock signal (FR, the signal is generated by the oscillator 102) to an internal clock signal (FV, the signal is generated by the divider 114) to generate a first signal (the signal VP');

generating a sampling clock signal (the VS signal from OR gate 410) by creating a pulse based on the reference clock signal (figure 4, it is based on the reference clock signal FR because VI is generated based on FR, the pulse is generated by the monostable 512) to generate a clock signal and buffering the pulse to generate an inverted clock signal (the signals to the transmission gate 506A and 506B, buffered by the inverter 514), the sampling clock signal reduced with respect to the reference clock signal (the frequency of VS is reduced, figure 5);

sampling the first signal (use the sample and hold circuit 404) based on a sampling clock signal (the sampling clock signal VS) to generate a second signal (the sampled signal to the lowpass filter 110); and

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generating the internal clock signal (FV) based on the second signal (use the controlled oscillator 112 and the divider 114).

As per claim 2, the up and down signals are generated by the phase comparator 106, the charge pump output signal is generated by the charge pump 108, the first signal is generated by the integrator 402, the output frequency signal FS is generated by the second signal VT, the internal signal is generated by the divider 114 using the "first predetermined amount" N.

As per claim 3, the functional recitation of the charge pump is shown in figure 2, the recited stabilization filter reads on the integrator 402.

As per claim 4, the recited loop filter reads on the loop filter 110.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,920,233, issued to Denny.

The method discussed in claim 2 herein above does not disclose specific values for N, X, and D as called for in the claim.

However, as held by the court, when the general condition is met, the act of varying the parameters in a circuit is not patentable. In this instant case, the structure of the PLL is disclosed

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as discussed in claim 2, changing the divider values are not patentable since the practice can be done by an average person skilled in the art.

It would have been obvious to one skilled in the art at the time of the invention was made to set the values of N, X and D to specific values recited in the claim. The motivation and/or suggestion would be to comply with the requirement in a specific application.

Response to Arguments

5. Note that the amended claim 1 is not found allowable because it does not include all the limitations of the base claim, i.e., the limitation of claim 5 are not included in claim 1.

Allowable Subject Matter

6. Claims 5 and 21 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claim 5 and 21 are allowable because the prior art of record fails to disclose or suggest the inclusion of a step of generating the sampling clock signal based on the reduced frequency as recited in claim 5.

7. Claims 8, ¹⁵ 9 and their dependent claims are allowed for the reason noted in the previous Office action.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

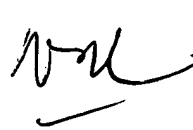
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Nguyen whose telephone number is 571-272-1748. The examiner can normally be reached on Monday, Tuesday, Thursday, Friday 7:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



9/10/05

Minh Nguyen
Primary Examiner
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